



BENCHMARKS

The University of North Texas Computing Center Newsletter

VOLUME 14 NUMBER 1

January/February 1993

Working to Make Things Better for You

By Claudia Lynch, *Benchmarks* Editor (as04@unt.edu) and Paul Gandel, Senior Director of Academic Computing (gandel@unt.edu)

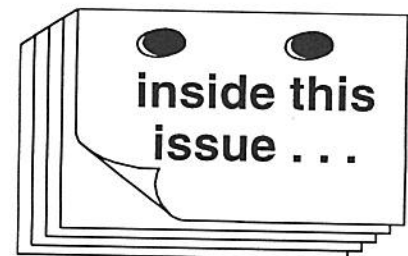
A lot of exciting things are happening on the UNT campus this semester, and many of them are computer related. Within the Computing Center, we have formed a Computing Support Services Team. The team's objective is to develop new and better ways to make sure that you, our customers, are provided with the kinds of computing services you need. Members of the team include people from all areas of the Computing Center — Academic Computing, Administrative Computing, Mainframe Technical Services, and Network and Microcomputer Support.

Computing Support Services

The Computing Support Services Team began meeting bimonthly in November of 1992. The first order of business was to find a way to alleviate the confusion many of you had encountered regarding whom to go to for help with computing issues. In response to your concerns, we've created a new, consolidated, office of Computing Support Services with one telephone number — 565-2324. It is located in ISB 119, the main Computing Center office.

Computing Support Services is comprised of the personnel from the "trouble call line" in Network and Microcomputer Support and a new coordinator, Chris Strauss. Chris is a graduate student in Information Science in the UNT School of Library and

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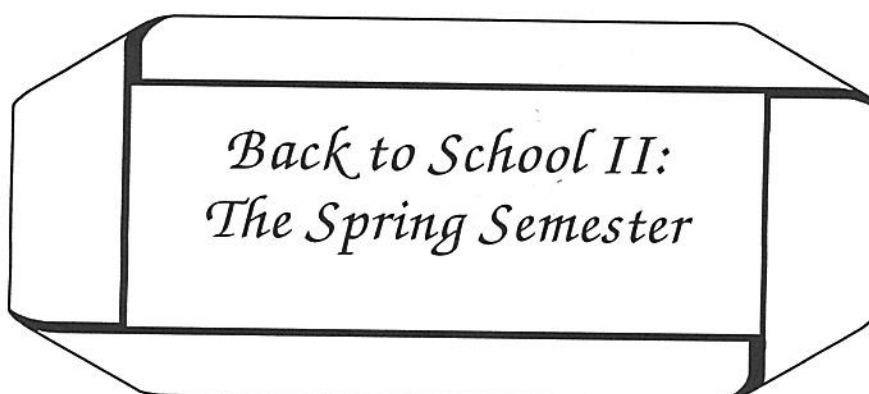
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☆ UNT COMPUTING CENTER ORGANIZATION AND FACILITIES ☆

The UNT Computing Center is located in the Information Sciences Building (ISB), Room 119. Phone: (817) 565-2324 (TDD 1-800-RELAY-TX), unless otherwise noted. It is divided into the following areas:

☐ Academic Computing Services:

- Documentation Services
- ISB 110 General Access Lab (817) 565-3048
- Mainframe User Services
- Research and Statistical Support Services
- VAX/UNIX Systems (817) 565-4161

☐ Network & Microcomputer Services (817) 565-2316:

- Data Communications
- Microcomputer Application Support
- Network Systems Support

☐ Administrative Computing:

- Admissions Data Systems
- Database/Central Programming Support
- General Data Systems
- NT/TCOM Fiscal Data Systems
- NT/TCOM Payroll/Personnel Data Systems
- Student Records Data Systems
- Student Services Data Systems
- Voice Response Applications

☐ Mainframe Technical Services:

- IBM Operating Systems Software Support
- Computer Operations



CONNECTING TO UNT COMPUTERS



Phone numbers for accessing UNT computing systems:

300-2400BAUD: (817) 565-3300
 300/1200BAUD: (817) 565-3499
 300-9600BAUD: (817) 565-3461 HSBrotocoONLY
 300-2400BAUD: D/FWMETROF92-4140

Areacode 214 must dial 817 before the METRO#. *Note:* Dialing 1 before the areacode will result in a long-distance charge.

Set Data Bits to 7, Parity to S, and Stop Bits to 1. When dialing in, the auto-baud feature requires you to hit the <RETURN> key repeatedly after the connection is made so that the receiving modem can determine the baud rate. When you see the prompt (# for local numbers, UNTMODEMS> for the metro lines) you can enter one of the following commands to connect with the system of your choice.

SYSTEM	SYTEK/DENTON LINES (#)	METRO LINES (UNTMODEMS>)	INTERNET (CUTCP, NCSA)
<i>ACS Host Systems</i>			
Academic Mainframe (MUSIC, CMS, Academic COM-LETE)	CALL 3270	CONNECT VM3270	tn3270 vm.acs.unt.edu —OR— telnet vm3270.acs.unt.edu
VAX (VMS)	CALL DEC	CONNECT DEC	telnet vaxb.acs.unt.edu
Solbourne (UNIX)	CALL 900	CONNECT SOL	telnet sol.acs.unt.edu
<i>Departmental Systems</i>			
Computer Sciences Sequent (Ponder)	CALL 780	CONNECT PONDER	telnet ponder.csci.unt.edu
UNT Libraries' on-line card catalog	CALL 3000	CONNECT LIBRARY	telnet library.unt.edu

To exit from the local phone lines, press <ESCAPE><RETURN>, and type DONE (at the # prompt), then press <RETURN><RETURN>. To exit from the metro lines, press <CTRL-SHIFT-6>, then type DISCONNECT (at the UNTMODEMS> prompt), then press <RETURN>. Exiting from telnet and TN3270 is dependent upon the package. CUTCP uses <ALT-X>.

HOURS FOR UNIVERSITY OF NORTH TEXAS COMPUTER ACCESS AREAS : Spring 1993

Day of Week	Willis	BA	ISB 110	Chilton, Matthews, Music	GAB	Terrill, Wooten	ISB 205C	Lab Locations
Monday - Thursday	Open 24 hrs.	8 a.m. - 11:45 p.m.	7:30 a.m. - Midnight	8 a.m. - 10 p.m.	8 a.m. - Midnight	8 a.m. - 8 p.m.	Noon - 10 p.m.	☛ BA: 330, 332 ☛ Chilton : 255, 116 [Adaptive Lab] ☛ GAB: 330, 550 ☛ ISB: 110, 205C — grad. students only ☛ Matthews: 309 ☛ Music: 1007 ☛ Terrill: 247 ☛ Willis: 134 ☛ Wooten: 120
Friday	Open 24 hrs.	8 a.m. - 8 p.m.	7:30 a.m. - 9 p.m.	8 a.m. - 5 p.m.	8 a.m. - 5 p.m.	8 a.m. - 5 p.m.	1 p.m. - 5 p.m.	
Saturday	Open 24 hrs.	8 a.m. - 8 p.m.	9 a.m. - 9 p.m.	10 a.m. - 5 p.m.	2-8 p.m.	Closed	10 a.m. - 5 p.m.	
Sunday	Open 24 hrs.	Noon - 11:45 p.m.	1 p.m. - Midnight	Noon - 10 p.m.	2 p.m. - Midnight	2-8 p.m.	1 - 10 p.m.	

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SERVICES continued from page 1.

Information Sciences. He is a retired Army officer with extensive experience managing computing support groups. His last five years in the military (1987-1992) were spent as an Information Systems Officer (ISO). He was also an Information Management Officer (IMO) for four years (1987-1991). We feel extremely lucky to have Chris. Please feel free to come by and meet him.

Help us to help you

Computing Support Services is in the process of evaluating "help desk" software to aid in their task of helping you. The Computing Support Services Team will continue to meet and explore other ways we can improve our service to you. If you have any specific service concerns or suggestions for improving service, please contact us.

The appropriate people to contact about support services are:

- **Chris Strauss, Computing Support Services Coordinator** — 565-4979. Office: ISB 120, WordPerfect Office ID: STRAUSS.
- **Paul Gandel, Senior Director of Academic Computing** — 565-3854. Office: ISB 121, WordPerfect Office ID: GANDEL.
- **Bill Buntain, Director of Network and Microcomputer Support** — 565-4802. Office: ISB 0061, WordPerfect Office ID: BUNTAIN.

For your convenience, we have also included a list of Computing Center personnel with their respective phone and office numbers, and their WordPerfect Office IDs at the end of this issue (its the "Clip Tip"). Many of these people can also be reached via Pegasus Mail (Pmail) with the same ID as they have on WordPerfect Office.■

Moving Towards Universal Access

By Bill Buntain, Director of Network and Microcomputer Services (buntain@unt.edu)

UNT offers an exceptionally rich computing environment to its students. Part of this is due to the variety of resources available on campus, but a major factor is the communications network that ties all of those resources together as well as to resources external to the University. The Computing Center has recognized a need to place much emphasis on establishing a high quality communications facility. In the coming months we will be pursuing this in three major directions:

- ① Completion of the physical installation and enhancement of the capacity of the university's campus-wide fiber optics backbone;
- ② Installation of building networks to connect to that backbone; and
- ③ Significant upgrading of the University's dial-up facilities, including enabling access to the University's Novell networks.

A high-speed fiber optics network

UNT began three years ago to install a campus-wide high-speed fiber optics network. This network currently reaches 29 campus buildings, including all of the major academic buildings. An additional project is planned to extend the fiber network in the western section of campus to at least seven more buildings, and possibly as many as ten.

The fiber optics backbone positions UNT exceptionally well to be a technology leader in the state of Texas. It enables people with access to the network to take advantage of the wide variety of information resources available both within the university and across the globe. Down the road we anticipate installing communications equipment on this backbone which will support data transfer speeds of 100 megabits (approximately 100 million bits) per second or more. This will be necessary to support emerging technologies such as multimedia.

Wiring campus buildings

However, a campus-wide backbone is only useful if people have the ability to connect to it. Last year a need was recognized to press forward with the installation of building networks to attach to the fiber optics backbone. The Board of Regents approved a \$625,000 project to install wiring in twenty campus buildings that would attach to the fiber backbone. When completed, this project will bring the number of buildings connected to the fiber backbone to 29. This again includes all major academic buildings and those that house the central University administrative offices.

What does all this mean to you?

Within the next year the network will enable high-speed access to all campus host computers, including the academic and administrative mainframes and the VAX, Solbourne, and library Hewlett-Packard systems (which has an electronic version of the library card catalog installed on it).

Additionally, the network will provide access to Novell NetWare file servers and services, including the library's CD-ROM systems, and also to wide area network resources, such as BIT-NET and the Internet — an international network of computing resources. With the appropriate hardware you will have access to all of this from a single machine, whether that be in a student lab or a faculty/staff office.

What about off-campus access?

All of this is well and good for people on campus. What about faculty, staff, and students who want to access campus computing resources from their homes? We are in the process of evaluating alternatives for upgrading the Computing Center's dial-up facilities. Part of this is moving to current industry standards for signaling and speed. A major thrust of our investigation, however, is focused on alternatives for providing access to Novell networks, a major campus resource not currently accessible through any centrally supported dial-up facility. The scope of our investigation is quite large. Look for an article in the next issue of *Benchmarks* describing the various schemes for providing dial-up service. ■

9600 Baud Modems — Read This Before You Buy

By Billy Barron, VAX/UNIX Systems Manager (barron@unt.edu)

If you are thinking about buying a high-speed modem, please read this first. It could help save you some grief (and money) and get you connected to the UNT host systems on your first try.

Types of 9600 baud modems

There are three major types of 9600 baud modems. Unfortunately, none of them are compatible with each other.

- ① **Telebit** — Telebit is a standard that is used on some networks such as UUCP. It is only supported by one company, which is Telebit and is only used at UNT in a very limited fashion.
- ② **HST** — HST is a standard promoted by US Robotics Corporation. Even though it was an early success and is common on some BBSes even today, its popularity is dying. Even US Robotics is supporting the next standard these days.
- ③ **v.32/v.32bis/v.42/v.42bis** — v.32 is the 9600 baud standard which is supported by almost all modem vendors these days. The other items listed (v.32bis/v.42/v.42bis) are protocols for error correction and data compression, which can lead to data rates better than 9600 on some transfers. Almost all modems that support v.32 will also support the other items.

What we support

UNT is currently supporting the HST standard on our 9600 Denton dial-up lines (565-3461). The reason for this is historical. Back when we chose HST, v.32 was in its very beginnings and HST was the most popular standard in the industry. Today, however, v.32 is the most popular standard. We have ordered some v.32 modems for both host access and Novell dial-up, when that service becomes available (see "Moving Towards Universal Access" on page 3 for more information). We also plan to continue supporting HST for host systems for the foreseeable future.

Call for help

If you have questions about purchasing a particular modem, feel free to give me a call (565-2446). You can also contact the data communications staff, some of whom are listed below:

- Darren Loher: 565-4885
- Kevin Mullet: 565-4168
- Blair Copeland: 565-4810
- C.R. Chevli: 565-4169 ■

Good News for Administrative Mainframe Users: NetWare for SAA

By Bill Buntain, Director of Network and Microcomputer Services (buntain@unt.edu)

Over the course of the past year, the Computing Center has been looking for a way to upgrade its SNA gateway access to the administrative mainframe. The gateway that had been in use was deficient in three critical ways — capacity, speed, and reliability. After an extensive evaluation, NetWare for SAA gateway was chosen. This gateway has several advantages over the old gateway. It supports 253 user sessions per copy of the gateway software, as opposed to the old gateway's limit of 60. It runs on a machine which is connected via a channel-attached device to the mainframe. Simply put, this means a performance increase. During testing the gateway was extremely stable.

Windows and Macintosh Clients

The new gateway also has native Microsoft Windows and Macintosh clients. We plan to implement these clients, upon request, as soon as we get everyone converted from the old gateway to the new one. Watch for updates on the SAA gateway in upcoming issues of *Benchmarks*. ■



Information Resources Council News

Minutes provided by Sue Harrison, Recording Secretary

IRC Regular Voting Members: Ray Vondran, Library and Information Sciences (Chair); Dave Barker, TCOM Information Resources Council; Cengiz Capan, College of Business; Carolyn Cunningham, Student Affairs; Paul Dworak, Faculty Senate; Chuck Fuller, Fiscal Affairs; Don Grose, Libraries; David Hartman, School of Community Services; Monica Holmes, Graduate Student Council; Stephen Farish, College of Music; Sam Magill, TCOM Director of Information Technology Services; Steve Miller, Administrative Affairs; Don Palermo, Academic Administration; Jean Schaake, College of Arts and Sciences; Beth Schlager, School of Merchandising and Hospitality Management; Paul Schlieve, College of Education. **IRC Ex-officio Nonvoting Members:** Bill Buntain, Computing Center; Jim Curry, Microcomputer Maintenance Shop; Paul Gandel, Computing Center; Richard Harris, Computing Center; Coy Hoggard, Computing Center; Tom Newell, Telecommunications.

October 20, 1992 Meeting

Susan Pierce reported that a two-week extension has been granted by DIR for completing UNT's Initial Operating Plan.

Coy Hoggard stated that he believes it is time to remove restrictions on mainframe users during arena registration, effective for Spring 1993 registration. The policy restricting usage of the mainframe during arena registration, that has been in place, was approved by the IRC and the IRC Steering Committee in response to concern about the workload on the mainframe computer during peak times. The installation of the new IBM 9121 mainframe helped the response time problem considerably and remaining problems were solved with the successful upgrade of the operating system to ESA at the end of September. In addition, there is a project underway to upgrade the SNA gateway, which should be completed by the end of this semester.

In response to Hoggard's request for the IRC to recommend a lifting of restrictions, a motion was passed stating that the current policy to restrict mainframe usage during arena registration be rescinded. The IRC's recommendation to rescind this policy will be taken to the IRC Steering Committee's next meeting.

Dr. Blaine Brownell, Provost & Vice President for Academic Affairs, was introduced and thanked the IRC members for the work they have done in handling many problem issues. He remarked that all of the recommendations made to the Steering Committee by the IRC have been passed which indicates that a great deal of credibility is given to this council. He urged members to try to communicate to their colleagues, and others who are interested, to let them know what the IRC is dealing with in an effort to gain input from as many sources as possible.

The final report of the Instructional Technology Task Force, prepared by Rogers Redding, Richard Enos, Donald Grose, Jim Poirot, Martin Richards and Scott Sullivan, included a recommendation that the IRC establish a standing committee for Instructional Technology to consider the problems and opportunities in that area across the entire campus. Since that recommendation was accepted by the IRC, Dr. Brownell charged the IRC to move forward in establishing this new committee in an

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effort to better coordinate all of the efforts of instructional technology at UNT. He remarked that he envisions CIS to be the core of the instructional technology development and that Barry Wagner could be on the standing committee in order to make sure everything is coordinated, but he further stated that it would be up to the IRC as to how the new standing committee would be structured. Brownell stressed that UNT needs to have an environment that is completely open to advances in the area of instructional technology; and as this project evolves, the IRC can see where it needs to be involved.

Dr. Vondran stated that the recommendation for another standing committee has initiated thinking about complete reorganization of the IRC to enlarge its base of representation. One idea that has been presented is to have two large standing committees: 1) Academic, and 2) Administrative. Under each would be subcommittees for addressing specific, perhaps short-term, projects and issues.

A motion was passed to establish a standing committee for the purpose of addressing the issues pertaining to instructional technology.

Chairman Vondran proposed that a standing committee for instructional technology be created, made up of the Senior Director of Academic Computing, the Director of the Texas Center for Educational Technology, the Director of the Media Library, and the Director of the Center for Instructional Services as ex-officio members, plus members from each college and school to be appointed by the appropriate dean.

Bill Buntain introduced Mike Wright as the new Microcomputer Applications Support Manager for the Computing Center.

November 17, 1992 Meeting

Paul Schlieve reported on a state-wide meeting, which he attended in Austin, on standards for videoconfer-

encing related to centers for professional development and technology throughout the state. These centers are outgrowths of partnerships between universities and public schools. The organizations represented indicated that K-12 organizations would follow Internet standards in use by the universities for data communication. Texas A&M proposed adoption of US Videotel's technology for video compression as the basis for state-wide videoconferencing. This proposal was rejected as a vendor-specific/proprietary solution which would not give the state the option of competitive bidding.

Schlieve indicated that the Professional Development Center at UNT was planning on using equipment that supports Px64, the T1 compression standard. This standard is not full motion, so the UNT/Dallas communications will use the vendor's proprietary compression method. The Px64 standard allows the same equipment to be used for videoconferencing with equipment manufactured by other vendors to the same standards specification.

Schlieve reported that the College of Education received \$800,000 to establish the PDC. Substantial portions of that amount are going towards staff and an infusion of technology into two of the poorest schools in Dallas. Another portion is going towards establishing the distance learning component of the project. GTE and Southwestern Bell have contributed T1 links among UNT and the campuses in Dallas. Cabletron has donated Ethernet hub equipment and Novell has donated copies of NetWare.

Susan Pierce reported on the preparation of the Initial Operating Plan (IOP) and Annual Report for submission to the Department of Information Resources (DIR). She distributed the IOP Executive Summary. She commented that the IOP schedule format was not particularly useful for the University's tracking purposes. The IOP format presents dollar amounts for the entire University. The University needs to track

expenditures by subdivision, such as monies expended for General Access Labs.

Pierce reported that the material used to develop the IOP was gathered by sending out survey forms to departments. Paul Schlieve noted an increase in the numbers on the plan and asked if this was related to the data collection method. Pierce indicated that in previous years the figures had been gathered only for the Computing Center and some of the larger departments, whereas, this year the figures are more representative of the whole University. Cengiz Capan asked if, in prior years, only projects over \$500,000 had been included in the schedule. Pierce said the schedule showed total figures and that the bottom line was not affected. She also stated that the IOP would need to be amended and that at present nothing was included in the plan for instructional technology.

Ray Vondran was concerned about the relationship between the IOP and the state's appropriation process. Richard Harris said that the IOP is essentially a request that becomes input to the Legislative Appropriation Review (LAR) process. Any items over \$500,000 are special item requests for approval of funding. The Final Operating Plan (FOP) is adjusted based on the appropriations received. Harris said that the Strategic Plan should be done before the IOP, but currently is done after it.

Susan Pierce said that the document is prepared primarily for 1994-95 budgeting purposes. She also indicated that there is a discrepancy between the schedule on the last page of the Executive Summary and the IOP schedules because the schedule in the Executive Summary includes 30% for fringe benefits. That schedule also ties expenditures to stated University strategies.

Discussion followed.

Richard Harris reported that there is a January 1 deadline for preparing a Strategic Plan for DIR. He said that we want to try to make the planning process as

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meaningful as possible. He said that UNT may also want to ask for an extension on the January 1 deadline. Harris also indicated that he would be talking to the state about changing the order of the DIR's planning cycle, so that the strategic plan is prepared prior to the IOP.

As it now stands, the strategic plan must be prepared by December 18, reviewed by the IRC, approved by the Information Resources Steering Committee and signed by the Chancellor prior to January 1. Input will also be solicited from University Planning and Analysis and the vice presidents as part of the drafting process.

Discussion followed concerning the structure of the Strategic Plan and the necessity for strictly following the DIR's guidelines.

Susan Pierce stated that DIR checks the format of the strategic plans and if an agency does not get DIR approval of their plan, DIR can tell the State Comptroller's Office that the agency is not in compliance and cannot spend money on information resource items. Pierce said the proposed structure for the strategic plan was more function-oriented than project-oriented. Broad program areas are identified with the understanding that they will overlap.

Ray Vondran asked that any items to be included in the strategic plan should be submitted to Susan Pierce, who will pass them on to the Strategic Planning committee. He added that the IRC will begin in January with a planning process to review, prioritize, fund, and operationalize the plan.

Cengiz Capan reported that the General Access Lab Committee met November 3. Jim Curry gave a presentation in that meeting concerning the Microcomputer Maintenance Shop's (MMS) space requirements. Curry said that he had received an additional room and that once his operation moves into it they will be maintaining Apple products and will be looking at support for

laser printers, dependent upon available space.

Capan also reported that the committee discussed instructional technology and classroom support, making technology available in classrooms, and hardware and software availability in the labs for classroom support.

Ray Vondran reminded the Council that the organization of the IRC's subcommittees is still an issue on the table. He said one approach discussed before would be establishment of two larger standing committees, one for academic and one for administrative concerns. He also said that the outline of the strategic plan presented by Susan Pierce, with its five program areas, might suggest a different structure. He requested feedback from the Council members regarding their preferences for the IRC's structure. He stated that, in the past, subcommittees have been created as needed and that now the entire structure should be reviewed. He said the IRC needs to fold its structure into a planning process. Part of the problem with the University's information resource planning process, he said, is that the IRC committees have a non-rational structure. He also indicated that there should be more participation from user groups, not just providers and administrators.

Paul Gandel reported that a bulletin board service will be available in January. The same BBS services will be available from PCs, Macintoshes, and Sun workstations and will be implemented as two parallel services, one for UNT concerns and one for users who want access to off-campus information as well. The total cost of establishing the service will be \$7000, which is the cost of an additional server that will have the added benefit of load balancing.

Gandel also reported that the UNIX system will be upgraded. He said there will be two UNIX boxes, one for computational and research purposes and one for general purpose UNIX usage.

He also reported that in reviewing optical disk storage, a determination was made that the technology is not mature and that to meet the storage requirements of the University community a tape jukebox would be acquired instead. These changes are within the approved budget for upgrading the UNIX system. They were all presented to and approved by the UNIX subcommittee.

December 15, 1992 Meeting

Richard Harris stated, on behalf of Ginny Anderson, that the Fiscal Administrative Planning Committee is not yet ready to make a report to the IRC. They are in the process of evaluating software products for electronic forms transfer and expect to have a report for the IRC at a later date.

Richard Harris distributed a draft of the Information Resources Strategic Plan. He stated that the committee is trying to get this plan in sync with the university planning process; however, there is a DIR deadline of February 1 that is driving the SPC to complete the Strategic Plan, even though it will not be a very detailed plan at the time it is submitted. In this first round the committee has been satisfied just to meet state requirements and the plan will be enlarged and developed later, since amendments to the plan can be sent to DIR at any time. Some discussion followed; and Harris asked that further comments be sent to him or Susan Pierce by electronic mail prior to distribution of the final draft on January 8.

Dr. Vondran introduced Virginia Wheelless, the new Assoc. V.P. AND Special Assistant to the Chancellor, for Planning, and asked her to speak to the committee about the UNT planning process. Dr. Wheelless stated that she is currently learning about the the planning processes at UNT. She does not plan to introduce a new planning process, but rather wants to try to interface the many facets of planning already in existence at this institution. The State wants to focus on long-range goals,

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objectives and strategies for meeting those goals. Wheelless stressed that the important thing is that IRC goals fit into the goals of the whole university, as they are derived from a compilation of each individual unit's plan. In thinking about internal and external factors with regard to planning, Wheelless prefers to use the acronym "SPOC", which leads planners to thinking of Strengths, Potentials, Opportunities, and Challenges (rather than the usual "SWOT" - meaning Strengths, Weaknesses, Opportunities, and Threats). She further stated that at the present time, the planning office is working with all the divisions as they prepare their strategic plans, to be sure all are brought together in one institutional plan.

It was mentioned that the Board of Regents is interested in looking at the university's list of opportunities in an effort to identify outside resources for funding them.

Wheelless urged those present to look upon the reaffirmation of the Accreditation process as an opportunity to do an intensive self-study over the next two years, to learn about ourselves and find out how we can better develop our resources. She asked for volunteers from the Council to serve on the many work committees that will be formed as part of the reaffirmation process. Wheelless stated that it looked like the goals the IRC already has stated tie in directly with the university-wide goals. She asked for further input from council members via electronic mail.

Richard Harris introduced Sam Magill, the new Director of TCOM Administrative Computing. Mr. Magill will serve on the IRC, replacing Frank Forney.

Dr. Vondran distributed a proposed IRC organization chart explaining that the Strategic Planning Committee had looked at different ways of organizing the committees according to the overall planning process being done for the DIR. In the discussion that followed, it

was agreed that a member of the IRC should serve on each major committee, and that anything brought before the council would come up through one of the committees. It is believed that the proposed structure of the committees will provide a broader base of input to the IRC. Following the discussion, the Chair stated that the proposed model for the organization of subcommittees will be voted on at the January 12 IRC meeting.

Ray Vondran reported that the Instructional Technology committee has been formed and had its first meeting on December 15, 1992. A list of committee members was distributed. He announced that he will chair that committee long enough to get it started. The members expressed a great many concerns and needs which varied from burned out light bulbs in overhead projectors to video conferencing. Vondran stated that the standing committees in each of the colleges need to enlarge their focus to include instructional technology now.

Paul Gandel announced that the Computing Center is in the process of reorganizing their academic and network and microcomputer support areas and will, as of January 4, handle all support questions on Phone Number 2324, which will be staffed by a Computer Support Services Coordinator.

Coy Hoggard reported that even though final approval for lifting restrictions on the number of mainframe computer users has not been officially given by the IRC Steering Committee, his group is proceeding as though the Committee has or will endorse the recommendation submitted by the IRC at its last meeting. He added that there still is a shortage of ports on the SNA gateway; however, with the upgrade to SAA, the number of ports will increase dramatically.

Cengiz Capan reported that the General Access Lab Committee met on December 1, at which time Steve Pickett and Robert Pierce spoke to the commit-

tee about the Adaptive Lab. It was pointed out by Steve Pickett that UNT is at the forefront of adaptive technology; other schools have come to UNT to learn how to set up their adaptive labs. The GALC assigned a small subcommittee to look into all the needs of disabled students and how to meet those needs.

Capan reported that the general access labs' "check-in" program is providing reports on a monthly basis now which will aid the Committee in determining whether or not the labs are reaching their capacities and help in determining why students are using some labs more than others.

Capan announced a special offer to purchase Lotus software products for \$27.00 per computer if the University has 1100 workstations signed up. Both COBA and College of Education are going to take advantage of the offer, and any other department on campus who wishes to join them should contact Cengiz.

An inventory report of all general access labs, except for those in the College of Business, that was presented at the GALC meeting, revealed that only 64 equipment items being used in the labs cannot be maintained by the Microcomputer Maintenance Shop. It was announced that MMS will probably be maintaining laser printers soon.

Capan also reported that several College of Business students recently won 1st and 2nd place awards in two separate programming contests conducted in the metroplex.

January 12, 1993 Meeting

The minutes of the IRC December 15, 1992 meeting were approved with the correction of Sam Magill's title as Director of Information Technology Services.

Richard Harris introduced the Information Resources Strategic Plan and asked for approval from the Council on at least the section on goals and strate-

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gies. He explained that more work will be done on the Plan right up to the last minute before sending it to DIR, but this is the last opportunity the IRC will have to review it as a group. Susan Pierce distributed a draft of the Plan and explained that since they could not do a complete planning document adequately within the required time frame, they intentionally made the strategies general, to meet minimum state requirements, but they will now move forward and really get into planning. Following a discussion of the proposed plan, a motion was passed to formally accept it.

Referring to the Proposed IRC Organization Chart distributed at the last Council meeting, Chairman Vondran explained that the proposed organization would consist of five program groups: 1) Instruction, 2) Research, 3) Administration, 4) Communications, and 5) Standards & Cooperation. In each program group would be a standing committee with representation on the IRC, and possibly subcommittees and/or task forces. How the committee members are selected and how all of the separate committees are articulated is still unclear. It was agreed that the college committees, as well as the Deans, should be involved in providing members for, and support of, each IRC standing committee. After discussion, a motion was passed accepting the proposed IRC organization.

Coy Hoggard distributed a document recommending the formation of an Administrative Computing Advisory Committee, under the Administration Program Group. This committee would be made up of some of the members of the current Administrative Information Systems Users Group. Under this proposal this Advisory Committee would submit agenda items to the IRC and its Chair would report to the IRC.

At the February IRC meeting, the Council will work out the details regarding formation of the Program Group committees and their charges.

David Hartman introduced Barbara Hall, Computing Director for Community Service, Merchandising & Hospitality Management, and Music, who replaces Susan Pierce.

Coy Hoggard reminded the Council that the SNA Gateway which allows access to the administrative mainframe from networked PCs is being upgraded. The upgraded gateway is known as the SAA Gateway. Both the SNA Gateway and the SAA Gateway will be available during the current (Spring '93) registration. Users whose SNA Gateway access was previously disabled during arena registration periods will not be able to use the old SNA Gateway during the current registration, but will be able to use the new SAA Gateway. If users experience problems accessing

the SAA Gateway, they should contact their network manager.

Bill Buntain explained that there are a few problems with the new SAA Gateway, one of which involved accidental disconnection. Software fixes are being applied and the Gateway should be more stable now. They are leaving the SNA Gateway up just as an emergency backup.

Joneel Harris reported that in spite of having successfully tested the scanners prior to the beginning of registration, they were experiencing problems. At the time of this report it was uncertain what the source of the problems were. Because so many students have teleregistered, the situation was not as bad as it could have been. ■

General Access Lab Services

By Mark Adamson, Chilton General Access Lab Manager (adamson@scs.unt.edu)

UNT has 13 General Access Labs that are intended to meet the general academic computing needs of UNT students. These labs are primarily supported by student computer service fees. Here is a brief listing of our basic services:

- ☐ **Word Processing** — Of course!
- ☐ **Spreadsheets** — Lotus or compatible spreadsheets
- ☐ **Communications** — Telnet and Procomm access to local hosts and the UNT on-line card catalog.
- ☐ **Printing** — Laser printing is available to students in support of class work, but is limited to a single final copy. For draft work, dot-matrix printers are provided.
- ☐ **Documentation** — Manuals are available for all software in the labs. Academic Computing Services also provides each lab with handouts on various computing subjects for reference purposes.
- ☐ **Help!** — Lab personnel are trained to assist students with hardware and software as time permits, but will stop short of answering course related questions.

One of the key strengths of UNT's computing environment is the diversity obtained from the departments that support the various labs. In addition to providing the services listed above, each lab has software unique to the department that supports the lab. A sampling of hardware alternatives shows a variety ranging from IBM compatibles and Macintoshes to X-terminals.

During peak times, waiting lines can be found at some labs. However, students should not have to wait. Lab monitors can check other General Access Labs electronically,

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and direct students to an alternative lab where no wait exists. A waiting list will be maintained when necessary and computer use will be limited to one hour per student. Following are the labs, their telephone numbers and locations. The computer labs' operating hours are listed inside the front cover of *Benchmarks* each month and are posted in each lab.

- **ACSLab** (ISB 110): 565-3048
- **Chilton 255**: 565-3460
- **Chilton 116** (Adaptive Lab): 565-4750
- **College of Business** — BA 330 & 332: 565-2081
- **GAB 330**: 565-2825
- **GAB 550**: 565-4170
- **ISB 205C** grad. students only: 565-2501
- **Matthews 309**: 565-4379
- **Music 1007**: 565-3765
- **Terrill 247**: 565-4755
- **Willis Library 134**: 565-2375
- **Wooten 120**: 565-2871

To maintain order, we have a few additional rules. All labs operate on a first-come-first-served basis. No reservations will be made for single users. Students must present their current UNT ID card or current fee receipt. The lab monitor will keep the ID while the student is in the lab. All floppy diskettes entering a General Access Lab will be scanned for virus infection. ■

The Electronic Business Library

A Virtual Library in the College of Business

By Cengiz Capan, Director, College of Business Computing Center and Jeffrey Levy, Business Librarian (jlevy@library.unt.edu)

The technology of the Virtual Library has brought, via the LAN, the UNT Library into faculty offices, student labs, and classrooms in the College of Business building. This has been made possible because the College of Business is the first academic unit to be fully networked. The concept originated as a joint venture of the College of Business Administration and the Libraries.

The "virtual library"

The "virtual library" has been defined as a system that allows remote access to information from the local library facility or through a personal computer via a transparent gateway. Through this system the library user may learn of the existence of needed information, for example, bibliographic or journal citations. The researcher may actually acquire the desired information through electronic means, either by document delivery or full-text retrieval. Thus, the local university becomes the gateway to a rapidly developing superhighway of information.

The Electronic Library serves as a prototype for future specialized services to faculty and students and furnishes the Libraries with a lab environment to provide new services.

The lab

The lab, located in COBA 333, has been remodeled into an Electronic Business Library/Lab, with scholarly workstations for students to do their research and obtain help. The Business Librarian, Mr. Jeffrey Levy, is in this lab in the afternoons to assist business faculty and students with their research projects and to conduct demos.

Please See LIBRARY on next page.

Computer Information Systems Organization

Helping Students and Faculty Grow as Computer Professionals

The Computer Information Systems Organization (CISO) held their annual Spring Kick-off Meeting and Pizza Party on January 28. They will continue to meet throughout the semester on alternate Thursdays.

Planned activities include field trips to area companies and assignments to business mentors and tutoring assistance. You will learn more about changing technology, career trends and job-hunting skills.

For more information, contact Linda Newton, CISO Publicity Chairman (214-470-0454) or Larry Clarkin, CISO President (214-952-4546). ■

LIBRARY continued from page 10.

The databases

The databases are located on the Library's file servers. The fiber optic backbone between the Library and the Business Administration building enables users in the Business building to access these databases, including the on-line catalogs of other libraries. Students are now accessing databases from any one of the 200 computers located in the labs since all of the PCs are on the LAN.

The following databases are currently available from the Electronic Library.

☐ Business databases:

- ABI/INFORM
- COMPUSTAT PC PLUS
- Wall Street Journal ONDISC
- Newspaper Abstracts
- Compact Disclosure

☐ Atlases/Country Information:

- PC Globe
- PC USA

☐ U.S. Government databases:

- County & City Data Book
- NTDB National Trade Databank
- County Business Patterns

☐ Other databases:

- UNT Libraries' On-line Catalog
- AHE Area Libraries' On-line Catalogs
- Dissertation Abstracts
- PSYCHLIT ■

Transferring Files From MUSIC to Other Platforms

By Dr. Philip Baczewski, Assistant Director of Academic Computing (ac12@unt.edu)

*During the past year, numerous articles have been printed in **Benchmarks** about the phasing out of the MUSIC operating system. This article provides instructions for transferring files off of MUSIC and onto another platform of your choice.*

A number of options exist for transferring files from MUSIC to other platforms. The method of file transfer that you choose will depend upon the final destination of your file and the nature of the file as well. The following is a brief overview of the options available which, hopefully, will help you determine the steps that you need to take to move your files from MUSIC to another system. Of course, a personal consultation is also available upon request with one of the Academic Computing mainframe support staff.

Transferring from MUSIC to other host systems

The SENDFILE command is available for transferring files from MUSIC to CMS or to the VAX/VMS system. If you have an active user-ID on one of these systems you can enter the following command from MUSIC *Go mode: **SENDFILE filename TO User-ID AT node**, where *filename* is the name of the MUSIC file you wish to transfer, *User-ID* is your User-ID on the destination system and *node* is either UNTVM1 for CMS or UNTVAX for the VAX/VMS system.

SENDFILE will also allow you to transfer multiple files by using the LIST option. To use that option you will first need to create a music file containing the names of the files you wish to transfer, one file name per line. You could then use the command, **SENDFILE filename TO user-ID AT node (LIST**, where *filename* is the name of the file which contains your list. For more information about the SENDFILE utility enter **HELP SENDFILE** at the *Go mode prompt.

One other choice is available for transferring files to other host systems. The SENDFILES command (note the additional "S") takes advantage of the SENDFILE utility to allow you to transfer multiple files over BITNET or to other UNT host systems using only one command. SENDFILES accepts as a file search specification any of the wild card combinations available for use with the MUSIC LIB command (enter **HELP LIB** for more information about wild card characters).

For example: if you had files with the names TEST1, TEST3, TEST5 and TEST11, you could send all of these files to a CMS User-ID by using the command **SENDFILES TEST*myid AT UNTVM1**, where *myid* is your CMS User-ID. You could send just the files TEST1, TEST3, and TEST5 by using the command **SENDFILES TEST? myid AT UNTVM1**.

Transferring Files from MUSIC to a Microcomputer

The KERMIT file transfer protocol is available for transferring files from a MUSIC save library to a PC, Macintosh, or other microcomputer. In order to take advantage of KERMIT on MUSIC, you must be using a microcomputer terminal communications program which also supports KERMIT file transfers. The UNT Computing

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Center supports and distributes two such programs for the PC, Procomm Plus and KERMIT, as well as KERMIT for the Macintosh.

To use KERMIT, your microcomputer must be able to connect to MUSIC either via a telephone modem or via the on-campus SYTEK local area network (LAN). Once you have logged on as usual, you should type **KERMIT** at the *Go mode prompt. You will then see the "KERMIT" prompt. A typical download would proceed as follows (the action you take is shown in **bold**):

KERMIT> **SEND filename**

(where *filename* is the name of the MUSIC file you wish to transfer)

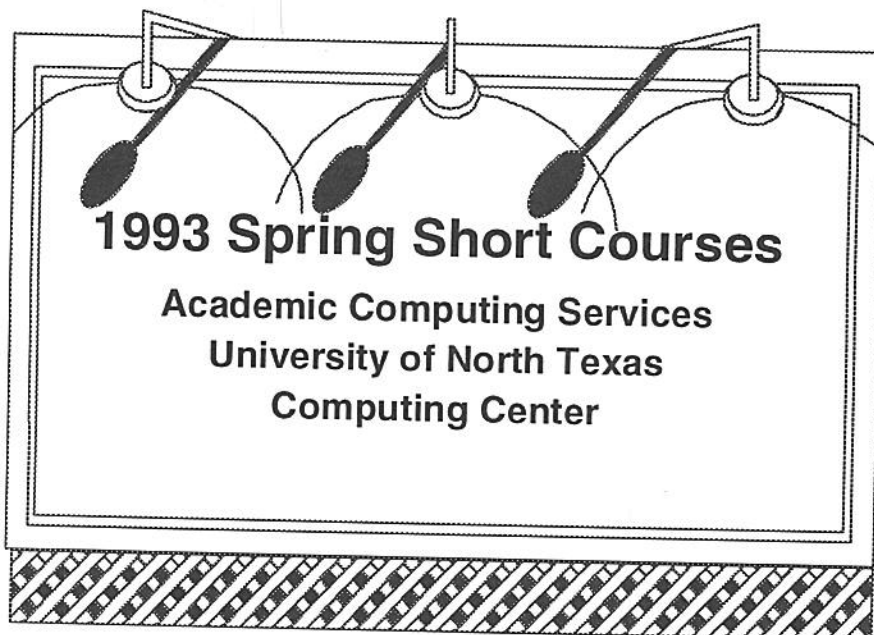
At this point you will need to start the file transfer on the microcomputer side. This is done as follows:

- ☐ **With PC PROCOMM:** Press <Page Down> (download) and select <2> (KERMIT)
- ☐ **With PC KERMIT:** Press <ALT-X> and type **RECEIVE**
- ☐ **With Macintosh KERMIT:** Select **RECEIVE FILE...** from the FILE menu

The file transfer should then begin and show you a status display of the progress.

For more information about using KERMIT, see the document "Connecting Microcomputers to UNT Host Systems," available in ISB 119, or contact one of the people listed below:

- George Morrow: 565-3882 (as01@unt.edu)
- Cathy Hardy: 565-3891 (ac55@unt.edu)
- Panu Sittiwong: 565-2140 (AC09panu@unt.edu)
- Phanit Laosirirat: 565-4066 (phanit@unt.edu)
- James Yarbrough: 565-4066 (ac35@unt.edu)
- Philip Baczewski: 565-3886 (ac12@unt.edu) ■



Academic Computing Services is offering the following short courses for the 1993 spring semester. Please preregister to attend (a registration form can be found at the end of this issue). **A maximum of 10 people will be admitted to each of the courses held in ISB 110. A maximum of 15 people will be admitted to each of the courses held in Chilton 255 and ISB 134B.** *Academic Computing Services reserves the right to cancel ANY course that has 5 people or fewer registered 3 days before the date of the course.*

PLEASE NOTE: Faculty and students have first priority to register for these classes. All people registering for hands-on (ISB 110) HDS, VAX and/or UNIX courses should have current User-IDs. Applications for User-IDs are available in the Computing Center main office (ISB 119).

HDS, VAX, AND UNIX COURSES

1. **Introduction to CMS** — CMS is an interactive operating system employed by academic users to access the Academic HDS/8083 IBM-compatible mainframe computer at UNT. CMS users have access to a variety of programming languages, a sophisticated text editing system, and several statistical analysis packages. CMS users can also submit batch jobs to the OS/MVS system.
Two two-hour sessions, held in the Science Library (ACS General Access Lab ISB 110):
 - **Tuesday, January 26: 3-5 p.m. Instructor: Staff**
 - **Friday, February 5: 10 a.m.-Noon. Instructor: Staff**
2. **Introduction to IBM MVS Job Control Language (JCL)** — This course provides an overview of IBM JCL for users who wish to further their knowledge in this area. It is useful to individuals who plan to run MVS batch jobs (e.g. SAS, SPSS-X) on the HDS IBM-compatible mainframe computer.
A two-hour session held in the Academic Computing Conference Room (ISB 134B):
 - **Wednesday, February 3: 3-5 p.m. Instructor: George Morrow**

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- 3. Introduction to VAX/VMS** – VMS is the interactive operating system used on the Digital Equipment Corporation (DEC) VAX. The VAX supports a variety of applications. The topics covered in this course include gaining access to the VAX through the Local Area Network, logging in and out, changing your password, creating files and directories, creating login command files, using the EDT editor, defining logicals and symbols, and electronic mail.

A two-hour session, held in the Chilton General Access Lab (Chilton 255):

- **Wednesday, January 27: 3-5 p.m. Instructor: Staff**

- 4. Introduction to UNIX** – Take the plunge into the wonderful world of UNIX. This course will start with a short discussion on the history and evolution of UNIX covering both the "Berkeley Software Distribution" and "AT&T System V" variants of UNIX. Topics covered will be the basic necessities for using UNIX and use of some of the various utilities available in UNIX.

A two-hour session, held in the Chilton General Access Lab (Chilton 255):

- **Thursday, January 28: 3-5 p.m. Instructor: Marc St-Gil**

- 5. Introduction to vi** – This course is recommended for individuals who want to learn the standard UNIX editor, vi.

A two-hour session, held in the Chilton General Access Lab (Chilton 255):

- **Thursday, February 4: 3-5 p.m. Instructor: Staff**

STATISTICAL PACKAGE COURSES

- 1. Introduction to SAS** – This course is recommended for individuals who plan to incorporate statistical analyses into their research. The basic concepts of the SAS system are covered in this course. **This course or prior knowledge of SAS is a prerequisite for all other SAS courses.**

Two two-hour sessions, held in the Science Library (ACS General Access Lab, ISB 110):

- **Monday, February 1: 2-4 p.m. Instructor: Panu Sittiwong**
- **Tuesday, March 2: 3-5 p.m. Instructor: Phanit Laosirirat**

- 2. Introduction to SAS on CMS** – This course is recommended for individuals who plan to use SAS on the academic HDS IBM-compatible mainframe. Topics covered include creating SAS programs, reading data into SAS programs, saving SAS datasets on a minidisk, importing/exporting SAS datasets to and from other SAS systems, and preparing and submitting SAS jobs to OS/MVS. SAS is used interactively in this course. **Prior knowledge of the SAS command language or attendance in the Intro. to SAS course is required.**

Two one-hour sessions will be held in the Science Library (ACS General Access Lab, ISB 110):

- **Monday, February 8: 3-4 p.m. Instructor: Panu Sittiwong**
- **Wednesday, February 10: 4-5 p.m. Instructor: Panu Sittiwong**

- 3. Introduction to SAS on UNIX** – This course is recommended for individuals who plan to use SAS on the Solbourne minicomputer. Topics covered include creating SAS programs, reading data into SAS programs, saving SAS datasets on a minidisk, importing/exporting SAS datasets to and from other SAS systems, and preparing and submitting SAS jobs to OS/MVS. This class will utilize the SAS menus under the X Window System. **Prior knowledge of the SAS command language or attendance in the Intro. to SAS course is required.**

A one-hour session will be held in the Science Library (ACS General Access Lab, ISB 110):

- **Monday, February 15: 4-5 p.m. Instructor: Panu Sittiwong**

- 4. Introduction to SAS PC** – This course covers the basics of using SAS PC, Version 6.04, for IBM and compatible PCs. Topics covered include using the SAS Display Manager, loading files, selecting variables and running statistical analyses. Emphasis will be placed on running SAS in interactive mode. **Prior knowledge of the SAS command language or attendance in the Intro. to SAS course is required.**

Two one-hour sessions, held in the Science Library (ACS General Access Lab, ISB 110):

- **Tuesday, February 2: 4-5 p.m. Instructor: Phanit Laosirirat**
- **Thursday, March 4: 4-5 p.m. Instructor: Phanit Laosirirat**

- 5. Introduction to SPSS** – This course is recommended for individuals who plan to incorporate statistical analyses into their research and want to use SPSS on the academic HDS IBM-compatible mainframe. It emphasizes using SPSS from the CMS operating system. Topics covered include creating SPSS programs, reading data into SPSS programs, saving SAS datasets on a minidisk, importing/exporting SPSS datasets to and from other SPSS systems, and preparing and submitting SPSS jobs to OS/MVS. SPSS is used interactively in this course.

Two three-hour sessions to be held in the Science Library (ACS General Access Lab, ISB 110):

- **Tuesday, February 9: 1-4 p.m. Instructor: James Yarbrough**
- **Monday, March 1: 2-5 p.m. Instructor: James Yarbrough**

- 6. Introduction to SPSS PC +** – This course covers the basics of using SPSS PC +, Version 4.0.1, for IBM and compatible PCs. Topics covered include using the menu and help interfaces in REVIEW, loading files, selecting variables, and running statistical analyses. Emphasis will be placed on building files for execution interactively. **Prior knowledge of the SPSS command language or attendance in the Intro. to SPSS course is required.**

Two three-hour sessions, held in the Science Library (ACS General Access Lab, ISB 110):

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- Thursday, February 11: 2-5 p.m. Instructor: Phanit Laosirirat
- Tuesday, March 9: 2-5 p.m. Instructor: Phanit Laosirirat

7. Introduction to SAS/Graph – This course is recommended for individuals who plan to incorporate statistical analyses into their research and want to display their results graphically. **Prior knowledge of the SAS command language or attendance in the Intro. to SAS course is required.**

Two two-hour sessions, held in the Science Library (ACS General Access Lab, ISB 110):

- Wednesday, February 17: 3-5 p.m. Instructor: Panu Sittiwong

WIDE AREA NETWORK COURSES

1. Introduction to Electronic Mail and Discussion Groups on CMS – This course will cover the basics of using CMS MAIL to send and receive electronic mail to both Internet and BITNET. The use of electronic mailing lists including BITNET LISTSERV will also be discussed. **Prior knowledge of CMS is required.**

A two-hour session, held in the Academic Computing Conference Room (ISB 134B):

- Monday, February 22: 3-5 p.m. Instructor: Philip Baczewski

2. Introduction to Electronic Mail and Discussion Groups on VAX/VMS - This course will cover the basics of using VAX MAIL to send and receive electronic mail to both the Internet and BITNET. The use of electronic mailing lists including BITNET LISTSERV will be discussed. Using USENET newsgroups via the ANU News program on the VAX will also be explored. **Prior knowledge of VAX/VMS is required.**

A two-hour session, held in the Academic Computing Conference Room (ISB 134B):

- Wednesday, February 24: 3-5 p.m. Instructor: Billy Barron

3. Introduction to Internet Tools and Techniques - The Internet is a collection of related computer networks that link almost a million computers throughout the world. This course will cover file transfer, remote login, use of on-line library catalogs at other universities,archie, HYTELNET, Gopher, and many other Internet topics **except electronic mail. Prior knowledge of at least one of the following interactive operating systems is required: VAX/VMS, CMS, UNIX, MS-DOS, MAC.**

A one and one-half-hour session, held in the Computing Center Conference Room (ISB 134B):

- Thursday, March 11: 3:30-5 p.m. Instructor: Billy Barron

MICROCOMPUTER COURSES

1. Introduction to Macintosh for Students - This course is recommended for students who want to learn about Apple Macintosh computers.

A two-hour session, held in the Science Library (ACS General Access Lab, ISB 110):

- Friday, January 29: 1-3 p.m. Instructor: Eriq Neale

2. Introduction to WordPerfect 5.1 for Students - Students who wish to use a word processing system to produce class papers and projects are encouraged to take this course. **Prior knowledge of basic DOS commands required. Bring one 5 1/4" low density formatted diskette. There is no difference between WP 5.1 and 5.0 at the introductory level. If you are comfortable with 5.0 do not take this class.**

A three-hour session, held in the Science Library (ACS General Access Lab, ISB 110):

- Friday, February 5: 2-5 p.m. Instructor: Sandy Franklin

3. Introduction to Procomm Plus - An overview of the Procomm communications package for personal computers or compatibles is presented for people who wish to access

host systems from their PCs. Topics covered include setting communications and file transfer parameters, setting up and using Procomm's dialing directory, and connecting to UNT host computers through the local area network.

A one-hour session, held in the Chilton General Access Lab (Chilton 255):

- Tuesday, February 16: 4-5 p.m. Instructor: Eriq Neale

4. Introduction to DOS for Students -

This course is recommended for students who want to learn about using DOS on IBM PCs and compatibles.

A two-hour session, held in the Chilton General Access Lab (Chilton 255):

- Friday, February 12: 1-3 p.m. Instructor: Eriq Neale ■

DISD Needs Your Support in Bond Election

By Claudia Lynch, *Benchmarks* Editor
(as04@unt.edu)

The Denton Independent School District (DISD) will ask voters to approve the issuance of \$21.5 million worth of bonds in an upcoming election on March 6. Among the many items the money will be spent on are those included in proposition #3.

As stated on the ballot, proposition #3 calls for "The issuance of \$4.6 million of bonds and levying the tax in payment thereof (computer equipment and other technological equipment, software, portable buildings, and furniture." Some specific expenditures that will be made are for:

- 10 elementary computer labs (1 for each campus, 30 computer stations per lab).
- 4 middle school computer labs (2 for each school).

- An additional computer lab for the Ryan campus and two labs at the West campus.
- A computer system for each classroom, grades 2-12, upon completion of teacher training.
- Upgrades for middle and high school industrial technology programs.
- Installation of the Rivera library system and upgrades in all other school libraries.
- Specialized systems and software for the at-risk student population.
- Multimedia instructional systems and laser disc classroom systems.
- A variety of software packages and furniture to support the above labs and classroom systems.

These acquisitions will bring Denton schools in line with other area schools — such as Plano, Richardson and Sanger — in terms of the technologies students are being exposed to. If you are concerned about the future of our community's youth, I urge you to put that concern into action by voting on March 6.

If you would like further information about the various propositions or just have questions about the bond election in general, you can contact Susan McGuire at 387-6151 ext. 145 or Guy Jones at 565-0377. ■

Staff Activities

Billy Barron, VAX/UNIX system manager, reviewed the book *Crossing the Internet Threshold: an instructional handbook for CONNEXIONS, The Interoperability Report* (November 1992, Volume 6, No. 11). Barron also had an article published in the January 1993 issue of CONNEXIONS (Volume 7, No. 1) entitled "The Message Send Protocol." ■

The Network Connection

By Dr. Philip Baczewski, Assistant Director, Academic Computing Services and BITNET INFOREP (ac12@unt.edu).

This column is a continuing feature of Benchmarks intended to present news and information on various aspects of wide area networks.

Inter-Network Mail, Your Gateway to the World

Fans of this column, if they exist, may remember a discussion similar to this one that appeared about two years ago in the February 1991 issue of *Benchmarks*. In the intervening years, we can observe several changes that have occurred: the name of this column has changed, emphasizing the inclusion of the Internet and other networks as part of the topical scope; Internet connectivity is available on all of the central academic host systems, lessening the need to rely on mail gateways; the number of commercial mail systems accessible has increased. This discussion, the first (and possibly last) biennial update on inter-network mail gateways, will center on sending mail to commercial networks and some other specialized destinations. For a more basic description of how BITNET interacts with gateways, see the original February 1991 article.¹

Gateways

Gateways are nodes which are connected to two or more networks. They usually run special software to translate mail files from the format needed for one network to that needed for a second, and then proceed to send the mail message to the specified user of that second network. If you use MAIL on the VAX, Solbourne, or VM/CMS systems or you use Pegasus mail on a microcomputer, you can take advantage of a number of gateways, most of the time without needing to know anything about the gateway itself. You can also easily send mail to some commercial networks that are connected to the Internet.

Addressing

If you know one of the addresses of any of these networks, the next step is to specify that address within the mail program that you are using.

- **On the Solbourne or within Pegasus mail**, you should be able to specify the address using the format, **User-ID@node**
- **On the VAX**, the address format would be **IN% "User-ID@node"** entered at the "To:" prompt.
- **On CMS**, if you use the **MAIL** program (RICE MAIL v. 90.01), addresses are also simple to specify; enter the command **MAIL User-ID@node** or **MAIL User-ID AT node** from the CMS "Ready" prompt. If you wish to define a

¹ "The BITNET Connection: BITNET, Your Gateway to the World," *Benchmarks* (Vol. 12, No. 2, February 1991).

nickname on CMS for an Internet or other address, you will probably need to specify the User-ID and node using the "tag" and "value" fields at the bottom of the NAMES program screen.²

Commercial Networks

A number of gateways provide access to many commercial networks. These include some major electronic mail networks and commercial information services. The following lists some of these along with the format for specifying the address.³ The elements in **bold type** are those that you would enter literally. The other elements will need to be determined by the destination network's addressing scheme.

- ☐ America Online (**user@aol.com**) — A commercial information network.
- ☐ Applelink (**user@applelink.apple.com**) — Apple Computer Corp.'s in-house mail network.
- ☐ AT&T Mail (**account-name@attmail.com**) — AT&T's commercial mail network.
- ☐ BIX (**user@dcibix.set**) — Byte Information eXchange, BYTE magazine's commercial information network.
- ☐ CompuServe (**xxxxx.yyy@compuserve.com**) — The CompuServe commercial information network.

² For a more detailed description of using the VAX mail program or defining addresses in the CMS NAMES program, see "The BITNET Connection," in the June 1990 issue of *Benchmarks*.

³ A comprehensive list of computer networks and addressing formats can be seen by typing **HELP NETWORKS** on the VAX. A less comprehensive, but similarly useful reference on VM/CMS is found in the file **NETMAIL GUIDE.D**.

Please see GATEWAY on page 17.

List of the Month

Each month we will highlight one BITNET, Internet, or USENET Special Interest Group (SIG) mailing list. This month's list...

CBEHIGH on `LISTSERV@BLEKUL11.BITNET` or `LISTSERV@CC1.KULEUVEN.AC.BE` (134.58.8.32)

CBEHIGH is an international electronic forum for anyone interested in discussing the use of computers as an educational tool in higher education. Some examples of relevant topics for the list are:

- your own experience with the use of computers in higher education.
- pointers to specific articles or other sources of information.
- cost effective uses of computers in education.
- effectiveness of computers in education.
- special uses of computers in education
- strategies for using computers in education.
- contrast the different learning theories as they apply to CBE.

To receive a list of files send the command **INDEX CBEHIGH** to **LISTSERV@BLEKUL11.BITNET**.

Owners: Peter Arien (**laaaa43@ccl.kuleuven.ac.be**), Herman van Uytven (**systhvu@blekul11.bitnet**), Wim Brems (**laaaa05@blekul11.bitnet**).

*To subscribe to CBEHIGH, send the following command to `LISTSERV@BLEKUL11.BITNET` via mail text or interactive message: **SUBSCRIBE CBEHIGH Your_full_name** where your_full_name is your first and last names.■*

GATEWAY continued from page 16.

- ☐ Connect (NAME@dcjcon.das.net) — Professional Information Network, a commercial network.
- ☐ Easynet (user@host.enet.dec.com) — Digital Equipment Corp.'s in-house mail network.
- ☐ FidoNet (first.last@fmachine#.nnetwork#.zzone#.fidonet.org) — A network of independent BBS systems.
- ☐ IBM (user@node.domain.ibm.com) — IBM's in-house network.
- ☐ MCI Mail (account-name@mci-mail.com) or (mci-id@mcimail.com) — MCI's commercial mail service.

Specifying addresses for networks that are not directly attached to the Internet or BITNET can get a bit complex. Usually, however, once a working address format is found, sending the mail is quite easy.

Once you get the hang of it, MAIL can not only allow you to communicate with other universities, but with an expanding world of diverse commercial computer networks as well. If you have questions about using the mail facilities available here at UNT to send inter-network mail, you can contact the following people (listed according to host/facility) within the Computing Center for additional help:

- ☐ **The VAX:** VAX/UNIX operators (565-4161, operator@vaxb.acs.unt.edu); Billy Barron (565-2446, billy@unt.edu).
- ☐ **The Solbourne (Sol):** VAX/UNIX operators (565-4161, operator@vaxb.acs.unt.edu); Marc St.-Gil (565-3408, mstgil@unt.edu).
- ☐ **CMS:** Philip Baczewski (565-3886, ac12@unt.edu); Panu Sittiwong (565-2140, panu@unt.edu).
- ☐ **P-mail:** Mike Murdock (565-4314, murdock@unt.edu); Mark Thacker (565-2568, thacker@unt.edu).■

Calls For Papers, Conferences, And Other Items of Interest



We have received the following "calls" and announcements from various organizations.

Call for Articles, Papers, Presentations, Nominations

- ☐ **Education Policy Analysis Archives** — If you have a paper on a topic related to education policy, you might want to send it to be published in this new electronic journal. Potential contributions should be between 500 and 1,500 lines of text and should follow style guidelines in the *Publication Manual American Psychological Association*. Electronic text should not be greater than 65 characters in width and should be in ASCII or TEXT format. Tables should be used sparingly, and figures should be avoided. Contact Gene Glass, College of Education, Arizona State University, Tempe, AZ 85287-2411 (602-965-2692) (ATGV@ASUACAD.BITNET) for more information.

publication Manual American Psychological Association. Electronic text should not be greater than 65 characters in width and should be in ASCII or TEXT format. Tables should be used sparingly, and figures should be avoided. Contact Gene Glass, College of Education, Arizona State University, Tempe, AZ 85287-2411 (602-965-2692) (ATGV@ASUACAD.BITNET) for more information.

- ☐ **15th Annual Conference of the Association for Integrative Studies, The Hotel St. Regis, Detroit, Michigan, October 7-10, 1993** — The theme of this conference is "Forms and Structure for Interdisciplinary Dialogue." Papers and presentations answering the following questions are encouraged: What Forums and structures exist for interdisciplinary dialogue? Which are successful? Which fail? How do academic structures (curricular, research, pedagogical, administrative, etc.) encourage or discourage interdisciplinary dialogue? Deadline for proposals is **April 9, 1993**. Contact Prof. Roslyn Abt Achindler, Director and Associate Dean, Interdisciplinary Studies Program, College of Lifelong Learning, Wayne State University, Detroit, MI 48202 (Phone: 313-577-4627) (FAX: 313-577-8585).
- ☐ **13th International Joint Conference on Artificial Intelligence, Chambry, France, August 29-September 1993** — Send mail to the automatic IJACI server (ijaci-serv@imag.fr) with the word HELP in the body of the message. You will receive general information and calls for papers. To receive a conference brochure, send mail to the IJACI secretariat (daujat@imag.fr).
- ☐ **Simulation & Gaming: An International Journal of Theory, Design and Research** — If you are interested in submitting an article for publication in this journal, send a self-addressed sticky label and \$2 worth of stamps to David Crookall, Editor S&G, Morgan Hall, Box 870244, University of Alabama, Tuscaloosa, AL 35487 to receive the Guide for Authors.
- ☐ **Nominations for EDUCOM Software and Curriculum Innovation Awards** — Deadline for submissions is **February 26, 1993**. To request an entry form, send mail to awards@cristal.umd.edu or call 301-405-7534.

Conferences

- ☐ **California State University, Northridge's Eighth Annual International Technology and Disability Conference, Los Angeles Airport Marriott Hotel, March 17-20, 1993** — This conference features special sessions on Virtual Reality and Speech Recognition. For more information, contact Dr. Harry Murphy, CSU, Northridge, 18111 Nordhof St. - DVSS, Northridge, CA 91330 (Phone: 818-885-2578) (FAX: 818-885-4929) (VR@VAX.CSUN.EDU).■

New PKZIP Released

By Eriq Neale, ACS General Access Lab Manager (neale@unt.edu)

PKWare recently released the latest version of its popular DOS file compression program PKZIP. Version 2.04E, which can be found on UNT's ftp server (see box below), and other well-known shareware distribution sites, is the second official release from PKWare since version 1.10. The main reason behind this change in version numbering is the large number of trojan or hacked versions of the program that have appeared out on the net. Version 2.04E also has quite a few other changes made to it.

Changes from version 1.10

First, PKZIP 2.04E uses a new compression algorithm, called Deflating," which decreases the time it takes to compress files and increases the level of compression. While I haven't really paid attention to how much time it takes to compress files, I have noticed that the final archives are significantly smaller when compressed using 2.04E than when using 1.10. PKZIP 2.04E also allows a ZIP file to span multiple disks. This feature is extremely useful for those of us who still do not have high-density disk drives on our computers at home. And if you don't have a stack of formatted blank disks sitting around to put this large zip file onto, don't worry, because PKZIP can now automatically format blank diskettes as it creates the archive file.

Another really handy feature is the use of a standard configuration file. The documentation explains how a PKZIP.CFG file can be created that contains commonly-used options when ZIP or UNZIP are used, eliminating some of the command-line switches we've had to use.

People concerned with the security of their data can now use the password protect feature of ZIP to scramble the data in the archive file. Knowing and using the correct password is necessary to unscramble the data at unzip time. Other new features of the program include the ability to make use of EMS, UMB, or HMA memory areas in DOS, auto-detection of CPU type used, and increased Novell NetWare awareness for improved file compression performance. PKZIP also now detects DPMI and will switch into 32-bit protected mode if it is available.

Shareware vs. Registered

PKZIP 2.04E is available in two versions: a shareware version which supports all the features listed above, and a registered version, which has the additional utilities indicated below. Due to PKWARE licensing requirements, if you are using PKZIP here on campus, you should obtain a registered version. If you will be using it at home, you can get the shareware version.

A PKCFG program is available which will automatically edit the PKZIP.CFG configuration file mentioned above. Another interesting utility provided with the registered version is PKSFANSI, referred to as "Safe ANSI" in the documentation, which disables ANSI keyboard key reassignments. (See next month's article on ANSI.SYS for a more detailed explanation.) The registered version comes with an Authenticity Verification number which allows you to create zip files that will inform the person "inflating" the archive if the file has been tampered with at some point after you created it. This can help prevent transmittal of some trojan programs or other files that have been virus infected.

Bugs

And, as you may have expected, there are some bugs associated with the new release, which seems to be the case with all software these days. The following problems list came from an unofficial list of bugs discussed on CompuServe.

- ❶ When restoring from a multiple disk backup set, PKUNZIP prompts you to insert the next disk in the drive, but does not properly detect the DOS "drive not ready" error. It also does not verify that the correct disk in sequence has been placed in the drive and will report a corrupted ZIP file if the wrong disk is inserted.
- ❷ The PKWare strategy to back up disks is flawed and dangerous. It requires that all of the backup disk set be present and undamaged. If first disk is damaged, the entire backup set is lost." (quoted directly from pkware.bug, posted to comp.archives.ms-dos.d by Keith Petersen Monday Jan 18, 1993)
- ❸ There have been many reports of file corruption and unexplained CRC errors. ■

Getting PKZIP at UNT

- ☐ Ftp to **ftp.unt.edu**
- ☐ At the username: prompt type **anonymous** at the password: prompt type *anything you like*.
- ☐ Next, type the following commands:
 - **cd /pub/micro/ibm/utility** <ENTER>
 - **binary** <ENTER>
 - **get pkz204e.exe** <ENTER>

Discount Training Programs Through DIR

By Claudia Lynch, *Benchmarks* Editor
(as04@unt.edu)

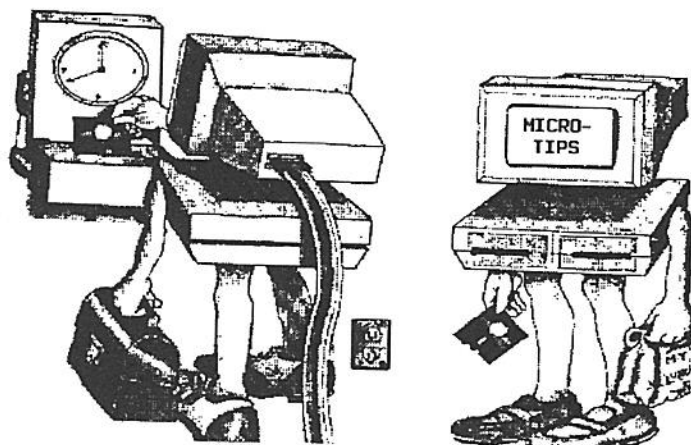
The Department of Information Resources (DIR), the information resources oversight organization for Texas State Agencies, has announced a cost-saving PC Training program for state agency employees outside of Austin. According to an article in the DIR newsletter, *TechTimes* (December 1992, Vol. 4, No. 10), DIR has contracted with Texas Technical Colleges (TSTC) to offer the following PC classes:

- ☐ Introduction to WordPerfect
- ☐ WordPerfect Advanced Level I
- ☐ WordPerfect Advanced Level II
- ☐ Introduction to Harvard Graphics
- ☐ Advanced Harvard Graphics
- ☐ Introduction to Lotus 1-2-3
- ☐ Lotus 1-2-3 Advanced Level I
- ☐ Lotus 1-2-3 Advanced Level II
- ☐ PC Literacy
- ☐ Windows 3.0 Orientation
- ☐ Word for Windows

There is also an "open enrollment program" that offers regularly scheduled PC and Macintosh classes. According to the article, "the program is designed to allow state personnel to attend selected classes in major Texas cities at a savings of up to 50% off vendors' list prices." This program is currently available in Austin, Beaumont, Dallas, Denton, Fort Worth, Houston, and San Antonio. Classes include:

- ☐ Excel
- ☐ WordPerfect
- ☐ Word
- ☐ Windows
- ☐ PC Literacy

Contact DIR to enroll, or for more information (512-834-4800). ■



*This column is intended to serve as a forum for sharing useful tips on making more productive use of microcomputers. If you have a tip that you feel may be of use to campus users, submit it to the **Benchmarks** Editor for possible inclusion in a future issue.*

Frequently Asked Questions

This article is a compilation of Frequently Asked Questions (FAQs) that have been received by Computing Support Services (see page 1 for more information about this new group.) Perhaps a problem you have been experiencing is covered here.—ED.

MS-DOS

QUESTION: I keep getting the error message "bad or missing interpreter" during bootup on my PC running MS-DOS. The PC "locks up" before getting to the C:\ prompt. Help!

ANSWER: This error message usually indicates that the **command.com** file on the root directory is either corrupted or deleted. **COMMAND.COM** is the program that displays the C:\ prompt — at which commands are accepted. Since it is one of the first files loaded during the "boot-up" process, the PC cannot accept commands and "locks up."

- ① Find the original DOS floppy diskette [the same version as the one currently on your hard disk] or a "bootable" floppy diskette and insert it in the A: drive and reboot. This will get you to a working command prompt.
- ② Copy the **command.com** file from the hard drive's DOS directory to the root directory. For example, at the A:\ prompt type:
copy C:\DOS\command.com C:
- ③ Reboot the PC.

An extra **command.com** is normally found in the DOS directory, for use during such occasions.

QUESTION: I get the error message "not enough environment space" when trying to run an application on my PC. Can you help?

ANSWER: MS-DOS allocates a specified amount of memory for "environment space." This space stores items such as the path and prompt.

Some applications require more than the standard amount of memory allocated; this amount can be specifically set in the config.sys file. Add this line to config.sys and reboot for the changes to take effect:

```
shell = c:\dos\command.com /e:256 /p
```

The /e is the environment space in bytes and should be increased starting with 256. The /p makes the new copy of command.com permanent and should only be used in the "shell =" statement in config.sys.

WordPerfect 5.1

QUESTION: While I was trying to execute WordPerfect, the monitor screen flickered and went blank. The PC is not "frozen," and the monitor is only blank while in WordPerfect. What could be the problem?

ANSWER: This is usually caused by changing out video display monitors on a PC. WordPerfect creates a setup file or *.set file that stores the configuration of your PC, including hardware available. If this setting has been changed to an incorrect setting, or if the PC has a new monitor that is a different type than the one before, then the following steps will reset the proper "text" video setting. Execute WordPerfect and perform the following keystrokes to change the text display and auto-select the proper setting (NOTE: You will not be able to see anything but a blank screen during this process.):

- ① <SHIFT-F1> (for Setup)
- ② <2> (for Display)
- ③ <3> (for Text Screen Type)
- ④ <2> (for Auto-Select)

These keystrokes will allow WordPerfect to automatically select the correct text screen type.

QUESTION: I keep getting the error "insufficient file handles in config.sys" while trying to run WordPerfect 5.1 for DOS. What am I doing wrong?

ANSWER: WordPerfect 5.1 for DOS requires at least 20 available file handles in order to execute. Make sure that the "FILES =" statement in the config.sys file is set to at least 35.

This error could also occur if another application is running and using too many of the available file handles.

Once the FILES statement is changed, the machine will have to be rebooted to make the change effective.

QUESTION: Can you still retrieve a document that had been "saved over" or replaced by a different document?

ANSWER: Unfortunately, if a file has been replaced then the older file cannot be recovered. If you're in WordPerfect 5.1 for DOS and the original backup option is enabled, there will be a file with the old name and a .BK! extension, which is a backup of the original file and can be retrieved and saved. To enable the WordPerfect 5.1 for DOS original backup, execute the following keystrokes:

- ① <SHIFT-F1> (for Setup)
- ② <3> (for Environment)
- ③ <1> (for Backup Options)
- ④ <2> (for Original Document Backup)

This will mean that each saved document takes up twice as much disk space, and this could be a problem if you are running out of space on your diskette or hard drive.

QUESTION: How do you recover a document in WordPerfect 5.1 for DOS if you have timed backups enabled and were forced to reboot the PC while in WordPerfect 5.1 editing the document?

ANSWER: If the timed backup option in WordPerfect 5.1 for DOS is enabled, go to the path where WordPerfect 5.1 was being executed before you rebooted and re-execute WordPerfect 5.1. A message should appear asking

"Are other copies currently running?" Answer "Yes" to this prompt. You will then see the message "Directory is in Use: New WP Directory:." Type in a new path for this prompt (example: c:\temp). You will then get the message "Old backup file exists 1.Rename 2.Delete" will appear. Choose 1.Rename and type in a file name. You can then retrieve the newly named file to recover the timed backup document you were editing.

QUESTION: Can documents created in WordPerfect 5.1 for Windows be retrieved into WordPerfect 5.1 for DOS and vice versa?

ANSWER: WordPerfect 5.1 for Windows and WordPerfect 5.1 for DOS documents are interchangeable. The Windows version also has the ability to save documents to other file formats such as Microsoft Word by choosing the Save As option.

QUESTION: I get the error message "invalid graphics driver" while trying to view a document (<SHIFT-F7><6>) while in WordPerfect 5.1 for DOS.

ANSWER: This is usually caused by changing out video display monitors on a PC or switching between PCs when using a network (sometimes monochrome, sometimes color). WordPerfect creates a setup file or *.set file that stores the configuration of your PC including hardware available. If this setting has been changed to an incorrect setting or if the PC has a new monitor that is a different type than the one before, then the following steps will reset the proper video "graphics" setting. Execute WordPerfect and perform the following keystrokes to change the graphic display and auto-select the proper setting:

- ① <SHIFT-F1> (for Setup)
- ② <2> (for Display)
- ③ <2> (for Graphics Screen Type)
- ④ <2> (for Auto-Select)

These keystrokes will allow WordPerfect to automatically select the correct graphic screen type. ■



Virus Update

Compiled by Claudia Lynch, *Benchmarks* Editor (as04@unt.edu)

The following information comes from the *VIRUS-L Digest*.

General

- A FAQ (Frequently Asked Questions) document and all of the back issues of *VIRUS-L Digest* are available via anonymous FTP on cert.org (192.88.209.5).
- Virus and Security Conferences:
 - 6th Annual International Computer Security & Virus Conference and Exposition, Madison Square Garden Ramada, New York City, March 10-12-1993 — Call for information call (800-835-2246, ext. 190).
 - 1st International Computer Virus Problems and Alternatives Conference, St. Konstantine Resort, Varna, Bulgaria, April 5-11, 1993 — Contact Mr. Nickolay Lyutov, ACMBUL Office, Varna University of Economics, 77 Boris I Blvd., 9002 P.O. Box 3, Varna, Bulgaria (602-621-8541) for information.
 - 16th National Computer Security Conference, Baltimore, MD, September 20-23, 1993 — Call (301-975-2775).

IBM and Compatible PCs

- Independent reviews of PC antiviral products is available via anonymous FTP on cert.org (192.88.209.5) in the directory pub/virus-l/docs/reviews.
- Click: Click: messages not a virus —If you keep getting annoying "click: messages" when you type FORMAT and you have a Logitech mouse you have just experienced a "feature" of the logitech software. Typing HELP FORMAT will also cause the "click:" messages.
- Looking for an antiviral product that will run under OS/2? — McAfee Virus Scan for OS/2 [Beta - for OS/2 2.0] can be found at ftp-os2.nmsu.edu (128.123.35.151) in the directory /pub/os2/2.0/diskutils. The file name is os_scb97.zip and must be unzipped with Info-ZIP's UNZIP 5.0. IBM also has a product, AntiVirus/OS/2. You can run F-PROT (which UNT has a site license for) if you turn off the boot sector virus detection and run a full check on each drive separately. ■

WordPerfect User's Group

The WordPerfect User's Group continues to meet in the SCS Lab, Chilton Hall 255 from 2-3 p.m. during the spring semester. Meeting dates are:

- | | |
|---------------|------------|
| • February 19 | • March 26 |
| • April 16 | • May 21 ■ |

Dangerous Bug in CHKDSK

By Claudia Lynch, *Benchmarks* Editor (as04@unt.edu)

A bug has been reported in the CHKDSK program that comes with MS-DOS 5.0. People who are using 256 sector File Allocation Table's (FATs) should not run CHKDSK with the /f option. If the /f option is used, 256 copies of the FAT will be written to your hard disk, starting at the first copy of the FAT. All directory information and a significant amount of the data in the data area will then be irrecoverably destroyed.

Are you at risk?

To find out if you are at risk, run CHKDSK without the /f option and check the "total allocation units on disk." If this number is greater than 65280, you're at risk. DO NOT USE CHKDSK TO CORRECT ANY DISK PROBLEMS.

The Solution

Microsoft is aware of the problem and has fixed it. You can contact Microsoft (1-800-426-9400) and request an upgrade to version 5.00a. (Make sure you are a registered owner, first.)

This upgrade is what is called a "silent maintenance release" and only addresses the specific problem mentioned here. According to Microsoft, it is not necessary for everyone to upgrade to this release.

If you're not sure what version of DOS you have, the date on the 5.00a COMMAND.COM is 11-11-91. If you use the undocumented /R switch in the VER command, it will return the version and revision of DOS. Unfortunately it says "Revision A" regardless of the version you are running. ■

MacX Now Site Licensed

By Billy Barron, VAX/UNIX System Manager (billy@unt.edu)

UNT has recently acquired a site license for MacX, which is an implementation of the X Window System for Macintoshes. While this product does not have the resolution or the speed of a true X terminal, it will meet the needs of many low-end X Window users.

To use MacX on the UNT campus, you should have either a Mac II, LC, or Quadra. You need an Ethernet card, at least 2 MB of RAM and a hard disk. You also need System 6.0.5 up to System 7.0 (not the recently released 7.1). MacX will perform better if you have 4 MB or more of RAM. The higher resolution your monitor is the better.

If you are on a Novell file server, contact your network manager to see if it is installed on the file server. If you are not on a Novell file server or you are a network manager, contact Billy Barron (billy@unt.edu or x2446) for more information. ■

X Terminals Now Available

By Timothy Christian, GAB General Access Lab Manager (tim@unt.edu)

Through a cooperative effort between the College of Arts and Sciences General Access Labs, the Computing Center, and the Computer Sciences department, we may now announce the availability of the X terminals in GAB 330.

These 5 RISC-processor NCD X terminals with 19" 8-bit color monitors and 1280 x 1024 resolution provide a great platform for working on available UNIX applications such as Mathematica, SAS (on the solbourne), and others.

The GAB 330 lab offers a "Quick-Start" sheet to start using the X Terminals. It demonstrates how to log in, use X, and log out. Finally, it provides references for changing your desktop configurations. When you check into the GAB 330 lab with your valid UNT student ID, ask for an X Terminal. We put a "Quick-Start Terminals" sheet on the left side of each X Terminal for your convenience.

So far, we offer only Ponder and Sol as log in options in the XDMCP host menu. We may add other hosts as time and software limitations permit (i.e., the host must run X11R5, and the host must also go through a configuration process).

Please mail your GAB 330 X terminal host-addition requests, problem reports (hardware and/or software) to X@gab.unt.edu.

Special thanks go to the following key people for making all this happen:

- Tim Christian (tim@unt.edu)
- Bruce Jackson (jackson@ponder.csci.unt.edu)
- Kiselyov Oleg (oleg@ponder.csci.unt.edu)
- Marc St.-Gil (mstgil@unt.edu) ■

Changes in the VAX/UNIX Support Staff & Consulting

By Billy Barron, VAX/UNIX System Manager (billy@unt.edu)

Over the past few months, Marc St.-Gil and I have become increasingly backlogged with UNIX software installations and workstation consulting. Looking at my current list as of today (Dec. 4, 1992), we have 23 pieces of software in the installation queue. To try to service our workstation users better and get this backlog down, we have decided to reorganize slightly.

Instead of having four operator/programmers, we now have three operator/programmers and one workstation consultant. Chris Williams is continuing in his role as lead operator/programmer coordinating our operations area. Leah Langholtz and Ken Corey are remaining operator/programmers. Amos Gouaux has been transferred to be our workstation consultant.

Amos has worked for us for about 2 1/2 years. After a training period, Amos will be the primary contact person for CUTCP installations, X terminal and general UNIX workstation consulting including hardware and software installation. When he is not busy with that, he will be working on some large projects including documentation and research software installations on the Solbourne. He will also be a back-up operator to cover some scheduling gaps on occasion.

This reorganization will hopefully allow Marc and I to focus more time towards supporting the host systems and help us get caught up on installing software. ■

VAXCLUSTER USAGE STATISTICS

October Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. GAUSSIAN	Molecular Modelling	8 05:42:22.18	36.7
2. DKDFG	Disk Optimizer	5 14:00:24.07	24.9
3. MOPAC	Quantum Mechanics	1 16:11:48.38	7.5
4. NEWS	ANU News Utility	1 11:20:17.95	6.6
5. User programs	Compiled Programs	1 10:29:30.00	6.4
6. MAIL_SERVER	VMS Mail Server	0 16:13:59.54	3.0
7. MAIL	VMS Mail Utility	0 09:54:25.14	1.8
8. LOGINOUT	User Login	0 09:49:22.69	1.8
9. BACKUP	Disk Backups	0 09:22:43.08	1.7
10. IRC	Internet Relay Chat	0 07:24:05.93	1.4
Total		22 10:26:28.16	

November Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. GAUSSIAN	Molecular Modelling	11 09:17:35.65	52.8
2. DKDFG	Disk Optimizer	2 02:46:55.63	9.8
3. NEWS	ANU News Utility	1 13:05:19.69	7.2
4. User programs	Compiled Programs	1 11:45:21.26	6.9
5. MOPAC	Quantum Mechanics	0 23:17:15.87	4.5
6. MAIL_SERVER	VMS Mail Server	0 14:51:55.40	2.9
7. MAIL	VMS Mail Utility	0 10:04:46.39	1.9
8. LOGINOUT	User Login	0 08:23:10.13	1.6
9. BACKUP	Disk Backups	0 08:03:55.86	1.6
10. IRC	Internet Relay Chat	0 07:35:01.75	1.5
Total		21 14:02:43.94	

December Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. GAUSSIAN	Molecular Modelling	11 07:30:53.84	53.9
2. User programs	Compiled Programs	3 14:54:54.72	17.3
3. NEWS	ANU News Utility	1 12:22:08.57	7.2
4. DKDFG	Disk Optimizer	0 19:45:56.34	3.9
5. MAIL_SERVER	VMS Mail Server	0 11:08:02.47	2.2
6. BACKUP	Disk Backups	0 09:21:25.12	1.9
7. MOPAC	Quantum Mechanics	0 09:01:18.60	1.8
8. MAIL	VMS Mail Utility	0 07:08:01.30	1.4
9. LOGINOUT	User Login	0 06:46:26.21	1.3
10. IRC	Internet Relay Chat	0 05:05:50.67	1.0
Total		20 23:18:41.45	

VAX/UNIX NEWS

VAX

- **Kermit upgraded to 5A(188)** — Kermit has been upgraded to version 5A(188). This version of kermit provides many new features, which are described in the online manual ("HELP KERMIT"). A User's Guide is in SYSS\$PUBLIC: KERMIT-1.DOC. A sample personal configuration file is in SYSS\$PUBLIC: CKERMOD.INI.

SOLBOURNE

- **gcc-2.3.3** — The GNU gcc package, which contains GNU ANSIC, GNU C++, and GNU Objective C, has been upgraded from version 2.2.2 to 2.3.3. Additionally, the GNU C++ library has been upgrade from version 2.2 to 2.3.

For complete documentation on gcc and libg++, use the command **info**. Then type **m** to specify which menu option you would like, i.e., gcc or libg++. This utility also has a man page.

- **NetWorker - Network backup utility installed** — Legato NetWorker has been installed on Sol, as well as several other machines around campus. This product will enable us to perform reliable backups of it's clients without requiring that they be rebooted to do so. Sol is currently being configured and tested as a NetWorker client. This means that Sol will no longer be re-booting for backups on Saturday mornings. We will still be making full backups on Saturdays and incrementals on other days on Sol. Once we have shaken out the quirks on Sol, we will begin backing up other machines on the network. At some time after that, and after our tape

SOLBOURNE USAGE STATISTICS

October Top Ten Programs: CPU Time Used

Program	Description	CPU Minutes	Percent of Total
1. UserPgm	User Programs	59557.3	49.0
2. g90	Gaussian 90	49880.3	41.0
3. sas	Statistical Package	5209.3	4.3
4. gopher	Gopher Information Service	1620.1	1.3
5. find	File Locator Utility	1053.9	0.9
6. update	Filesystem sync	492.9	0.4
7. ircd	Internet Relay Chat Daemon	216.3	0.2
8. xv	Picture Viewer	151.5	0.1
9. tcsh	User Program	145.3	0.1
10. newirc	Internet Relay Chat	143.2	0.1
Total		121419.8	

November Top Ten Programs: CPU Time Used

Program	Description	CPU Minutes	Percent of Total
1. UserPgm	User Programs	29763.2	50.6
2. g90	Gaussian 90	25858.0	44.0
3. perl	Perl Language Interpreter	497.4	0.8
4. gopher	Gopher Information Service	451.7	0.8
5. mopac6	Chemistry Program	271.9	0.5
6. find	File Locator Utility	254.1	0.4
7. update	Filesystem sync	212.7	0.4
8. xterm	X terminal	103.5	0.2
9. ircd	Internet Relay Chat Daemon	102.2	0.2
10. newirc	Internet Relay Chat	62.3	0.1
Total		58706.4	

December Top Ten Programs: CPU Time Used

Program	Description	CPU Minutes	Percent of Total
1. UserPgm	User Programs	56174.8	69.4
2. g90	Gaussian 90	20886.9	25.8
3. mopac6	Chemistry Program	696.9	0.9
4. find	File Locator Utility	468.8	0.6
5. gopher	Gopher Information Service	422.9	0.5
6. update	Filesystem sync	188.6	0.2
7. sml	Standard MetaLanguage	162.1	0.2
8. elm	Electronic Mail	107.7	0.1
9. newirc	Internet Relay Chat	103.5	0.1
10. nn	USENET Newsreader	101.0	0.1
Total		80951.4	

carousel or jukebox has arrived, we will begin to allow users to restore their own files using the networker programs. This will mean that any user on a NetWorker client system (initially only Sol) will be able to quickly recover deleted files on their own or with operator assistance if necessary.

❑ **Kermit upgraded to 5A(188)** — Kermit has been upgraded to version 5A(188). This version of kermit provides many new features, which are described in the online manual ("man kermit"). A User's Guide is in /usr/local/lib/kermit.doc. A postscript version of the User's Guide is available in /usr/local/lib/kermit.ps. Sample personal configuration files are in /usr/local/lib/dot.kermrc and dot.mykermrc.

❑ **OS Upgraded** — The Solbourne Operating System (OS/MP) was upgraded from 4.1A.2 to 4.1A.3 on 12/29/92. The system should be more stable than in the past few months since the 4.1A.2 upgrade and the problems with the backups on Saturdays appear to be fixed with the new release.

NOTE: during the upgrade some preparations were made for the integration of our new system 'Jove' that is "on the way". These changes were mostly invisible, but you will notice that the structure of your home directories has gained a new level... i.e. /home/indiv/... is now /home/sol/indiv/... ■

Another Light Bulb Joke

Q: How many programmer/analysts does it take to change a lightbulb?

A: Sorry, that would only be a temporary fix and we're working on a permanent solution. ■

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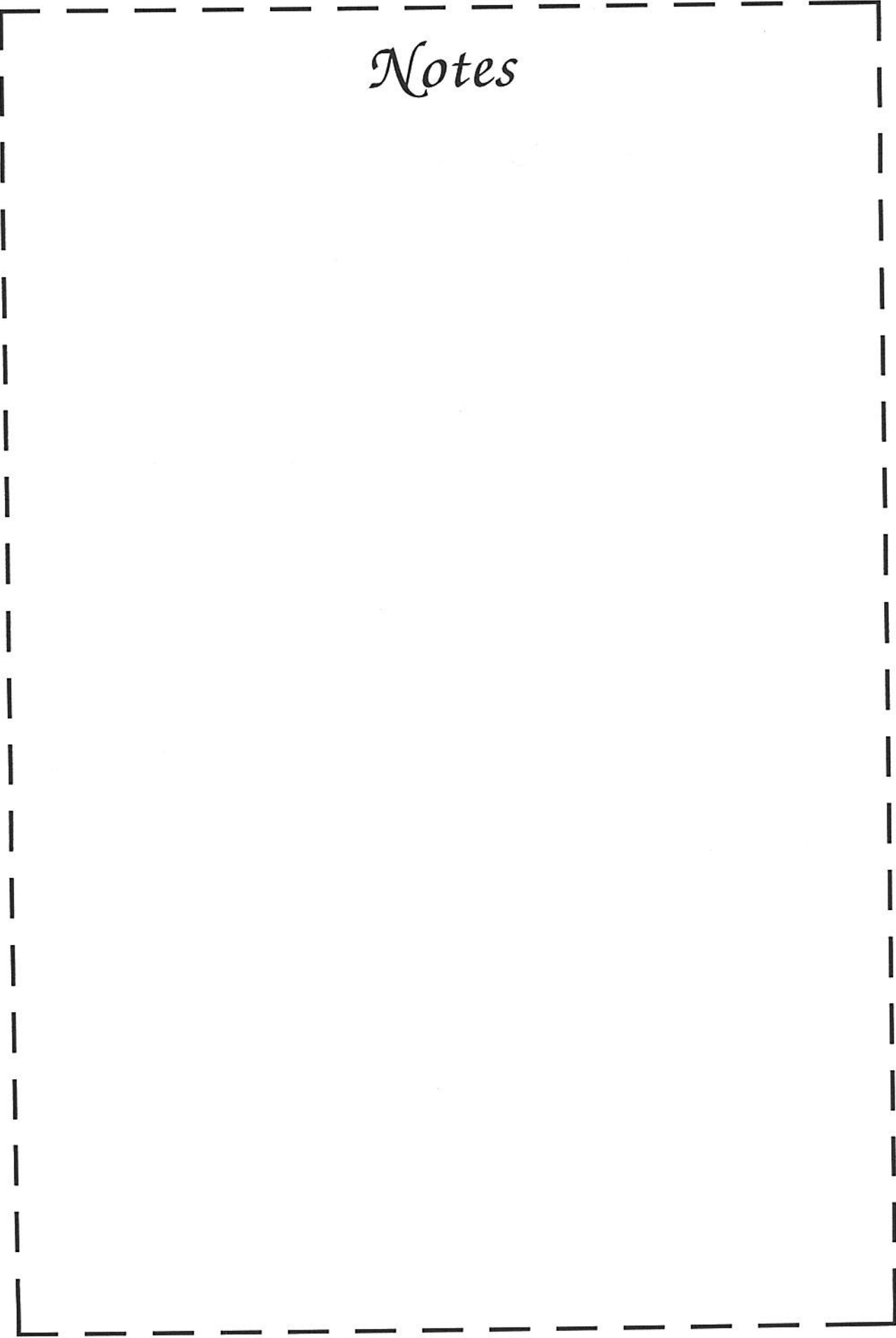
CLIP TIP

Computing Center Phone List

(January 1993 — Revised)

<u>Name</u>	<u>Phone</u>	<u>Office</u>	<u>Name</u>	<u>Phone</u>	<u>Office</u>
Abdallah, FADEL	565-4885	ISB 006H	KOEPP, Cynthia	565-4898	ISB 134E
AMBUEHL, Margaret	565-2240	MH 204	Koldjeski, Paul PTK	565-3477	ISB 240
Aswalap, JOY	565-3883	MH 212	Laosirirat, PHANIT	565-4066	ISB 131
BACZEWSKI, Philip	565-3886	ISB 127	LINKE, Luanne	565-2716	ISB 230
BARRON, Billy	565-2446	ISB 129	Littlefield, CLIFF	565-2324	ISB 119
Bass, Rocky	565-3881	ISB 142	LOHER, Darren	565-4885	ISB 006H
Belcher, Bill	565-3897	ISB 227	LYNCH, Claudia	565-4068	ISB 125
BERLANGA, Irma	565-3858	ISB 123	MADLOCK, Janice	565-3893	ISB 224
Bhattacharya, SUMANGala	565-4898	ISB 134E	MANER, Mike	565-3868	ISB 006F
Borgailo, BARBARA	565-3888	MH 212	MCMAINS, Sean		ISB 134W
Brooks, JENNY	565-3857	MH 230	MEARS, Andy	565-2324	ISB 119
Brooks, Phillip	565-4069	ISB 142	MINNIS, Steve	565-3866	ISB 243
BUNTAIn, Bill	565-4802	ISB 006I	MORROW, George	565-3882	ISB 132
BURRUS, Scott	565-4064	MH 213	MULLET, Kevin	565-4168	ISB 006D
BUTLER, Don	565-3884	MH 206	MURDOCK, Mike	565-4314	ISB 134C
C_DIVERS, Christina	565-2324	ISB 119	NEALE, Eriq	565-4808	ISB 124
CHANG, Fee	565-3434	MH 215	Paiani, BAHRAM	565-4066	ISB 131
Chaudry, QAIS	565-2324	ISB 119	Parivash, Said	565-3975	MH 221
CHEVLI, C.R.	565-4169	ISB 006G	PIERCE, Susan	565-4065	ISB 235A
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COPELAND, Blair	565-4810	ISB 006H	Prijosoesilo, ANTO	565-4118	ISB 134H
CREWS, Jana	565-2326	MH 230	Sanders, Rabon	565-4152	GAB 560
DATA ENTRY	565-3887	ISB 140	SARINGER, Bob	565-4191	ISB 006E
Desai, SHRI	565-2324	ISB 119	SCANNER ROOM	565-2213	ISB 128
DIVERS, Brian	565-2324	ISB 119	SHAW, Howard	565-3973	MH 208
Dowdy, RACHELD	565-3887	ISB 140	Sittiwong, PANU	565-2140	ISB 122
DROWN, Maureen	565-4148	MH 215	SOUTH, Patrick	565-4830	ISB 134F
DUCHEMIN, Eric	565-4061	MH 216	StGil, Marc MSTGIL	565-3408	ISB 128
DYSART, John	565-3889	MH 209	STRANGE, Dan	565-2929	MH 227
ELLIS, Nevin	565-4190	ISB 228	STRAUSS, Chris	565-4979	ISB 120
FAX Phone Number	565-4060	ISB 133	SUMMERS, Pam	565-3473	ISB 123
FISHER, Nancy	565-3977	MH 220	SUPPORT SERVICES	565-2324	ISB 119
FRANEK, Randy	565-2291	ISB 241	SWATLOSKI, Don	565-4062	ISB 231
FRANKLIN, Sandy	565-3856	ISB 134J	THACKER, Mark	565-2568	ISB 134G
Freeman, LAWANA	565-4163	GAB 560	Thanavibulpol, LEK	565-3587	MH 210
GANDEL, Paul	565-3854	ISB 121	VAX Operators	565-4161	GAB 511
Graham, Michael	565-4153	GAB 560	WALDON, Jerry	565-3865	ISB 245
Graham, Shauna	565-4360	GAB 560	WALLACE, Linda	565-4981	MH 209
Grise, BETTYG	565-3894	ISB 130	Wang, Rong	565-2241	MH 205
GROOMS, Mahshid	565-3958	MH 228	WIGINTON, Mike	565-3898	ISB 244
HARDY, Cathy	565-3891	ISB 126	WILLIAMS, George	565-4067	ISB 242
HARRIS, Richard	565-3853	ISB 235D	Williams, Mike	565-3880	ISB 142
Harrison, SUEH	565-3859	ISB 235	WONG, Meng Long	565-3376	MH 210
HARWELL, Marlane	565-2324	ISB 119	WRIGHT, Mike	565-3632	ISB 134A
HOGGARD, Coy	565-3855	ISB 235B	Yarbrough, JAMES	565-4066	ISB 131
HOOPER, John	565-2219	MH 203	YOUNG, David	565-3869	ISB 249
I/O STATION	565-3860	ISB 133			
ISB 110 (ACS) LAB	565-3048	ISB 110			
Islam, Faisal	565-3959	MH 208			
JACKSON, Earl	565-3478	ISB 229			
Jones, Robert RJONES	565-2723	MH 211			
JOPLING, Jenny	565-4462	ISB 006C			

NOTE: Staff names in CAPS are their Word-Perfect Office mail IDs on the CC1 file server. MH=Marquis Hall, GAB=General Academic Bldg., ISB=Information Science Bldg.



Notes

Computing Center Short Course Registration Form

Please complete this form and return it AS SOON AS POSSIBLE if you wish to attend any of the short courses listed below. You may also register over the phone by calling (817) 565-2324. **FACULTY AND STUDENTS HAVE FIRST PRIORITY TO REGISTER FOR THESE CLASSES. A VALID USER-ID IS REQUIRED FOR CLASSES MARKED WITH AN ASTERISK (*).** Academic Computing Services reserves the right to cancel ANY course that has 5 people or less registered 3 days before the date of the course.

NAME: _____ FACULTY ____ STAFF ____ STUDENT ____
DEPT: _____ UNDERGRADUATE ____ GRADUATE ____
PHONE: _____ MAILING ADDRESS: _____
SSN: _____ USER-ID: _____
Staff: SUPERVISOR SIGNATURE: _____

I wish to attend:

- **Intro. to SAS (ISB 110)*:**
____ Monday, February 1: 2-4 p.m.
____ Tuesday, March 2: 3-5 p.m.
- **Intro. to SAS on CMS (ISB 110)*:**
____ Monday, February 8: 3-4 p.m.
____ Wednesday, February 10: 4-5 p.m.
- **Intro. to IBM JCL (ISB 134B):**
____ Wednesday, February 3: 3-5 p.m.
- **Intro. to SPSS (ISB 110)*:**
____ Tuesday, February 9: 1-4 p.m.
____ Monday, March 1: 2-5 p.m.
- **Intro. to Electronic Mail & Discussion Groups on CMS (ISB 134B):**
____ Monday, February 22: 3-5 p.m.
- **Intro. to Internet Tools (ISB 134B):**
____ Thursday, March 11: 3:30-5 p.m.
- **Intro. to UNIX (Chilton 255)*:**
____ Thursday, January 28: 3-5 p.m.
- **Intro. to SAS on UNIX (ISB 110)*:**
____ Monday, February 15: 4-5 p.m.
- **Intro. to Macintosh (ISB 110):**
____ Friday, January 29: 1-3 p.m.
- **Intro. to DOS (ISB 110):**
____ Friday, February 12: 1-3 p.m.
- **Intro. to CMS (ISB 110)*:**
____ Tuesday, January 26: 3-5 p.m.
____ Friday, February 5: 10 a.m.-Noon
- **Intro. to SAS PC (ISB 110):**
____ Tuesday, February 2: 4-5 p.m.
____ Thursday, March 4: 4-5 p.m.
- **Intro. to VAX/VMS (Chilton 255)*:**
____ Wednesday, January 27: 3-5 p.m.
- **Intro. to SPSS PC+ (ISB 110):**
____ Thursday, February 11: 2-5 p.m.
____ Tuesday, March 9: 2-5 p.m.
- **Intro. to Electronic Mail & Discussion Groups on VMS (ISB 134B):**
____ Wednesday, February 24: 3-5 p.m.
- **Intro. to Procomm+ (Chilton 255):**
____ Tuesday, February 16: 4-5 p.m.
- **Intro. to vi (Chilton 255)*:**
____ Thursday, February 4: 3-5 p.m.
- **Intro. to SAS/Graph (ISB 110):**
____ Wednesday, February 17: 3-5 p.m.
- **Intro. to WP 5.1 (ISB 110):**
____ Friday, February 5: 2-5 p.m.

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**Academic Computing Services
The Computing Center
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Denton, TX 76203
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